

5. (Amended) A head tracker system according to Claim 1 and further comprising one or more marking generators (18a-18j) for generating the distinguishable markings.

7. (Amended) A head tracker according to Claim 1 in which each marking is a substantially collimated image having an axis (20a-20j) which is predetermined and which passes through said respective known fixed point.

8. (Amended) A head tracker system according to Claim 1 in which the plurality of markings comprises features of the environment around the user.

9. (Amended) A head tracker system according to Claim 1 in which the optical correlator (26) is operable to sequentially, optically correlate the optical image from the optical sensor with an optical image representative of each of the markings.

10. (Amended) A head tracker system according to Claim 1 in which the means (28) for determining the orientation of the head mounting (2) determines the head mounting orientation by determining where within the field of view of the optical sensor a marking is located.

11. (Amended) A head tracker system according to Claim 1 in which the optical sensor (12) comprises a video camera for capturing the optical image and producing an electrical signal representative of it and converting the electrical signal back to an optical image.

12. (Amended) A head tracker system according to Claim 1 and further comprising a second optical sensor located at a second known fixed point relative to the head mounting or to the fixed datum.

13. (Amended) A head tracker system according to Claim 1 in which the optical correlator (26) is a Vander Lugt type correlator.

14. (Amended) A head tracker system according to Claim 1 in which the optical correlator (28) is of the joint transform type.

17. (Amended) A head tracker system according to Claim 15 and further comprising providing one or more visibly distinguishable markings (18a- 18j) at respective known points which are fixed relative to the datum (22).